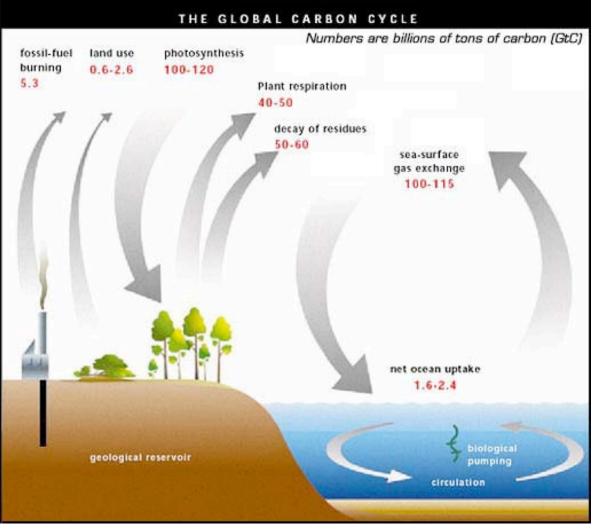




#### **Forests in the Carbon Cycle**



Content source: Kasting, James. 1998. **The Carbon Cycle, Climate, and the Long-Term Effects of Fossil Fuel Burning**. Consequences: The Nature and Implication of Environmental Change (Volume 4, Number 1)



# Forests – Part of the Problem and Part of the Solution

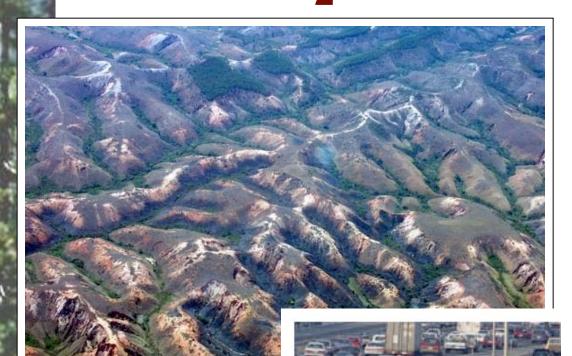


•Absorbed CO2 from photosynthesis is 'sequestered'.

•CO2 is released back into the atmosphere when harvested (and decayed) or burned.



## The Forest Sector is a Source of Global CO<sub>2</sub> Emissions



- •Forest Sector contributes approx. 20% of global CO<sub>2</sub> emissions largely due to forest loss
- •Forest loss =  $CO_2$  emissions from 1.4 billion cars annually



#### **California's Forest Threats**



•Conversion to Agriculture.

•Conversion to Housing.



#### Why are Conversions Occurring?



Increasing management costs

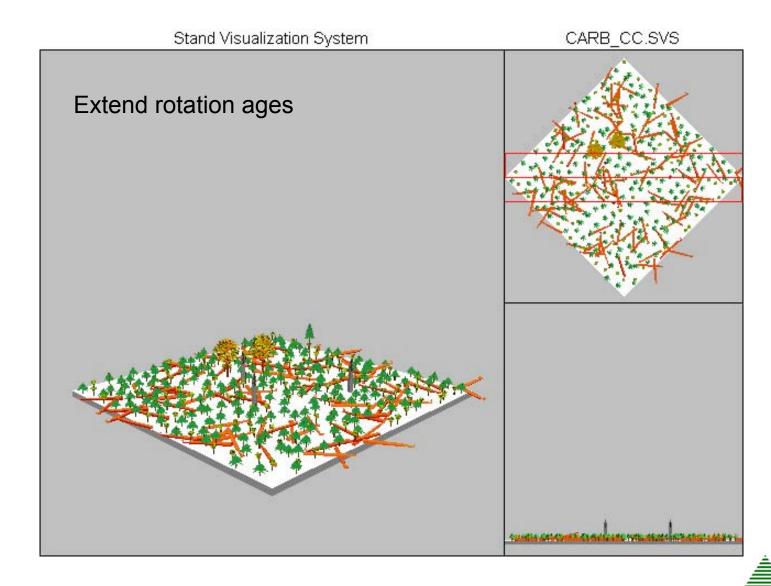
Increasing real estate values

• Other forest values such as habitat, clean water, recreation, and carbon sequestration are not rewarded financially.



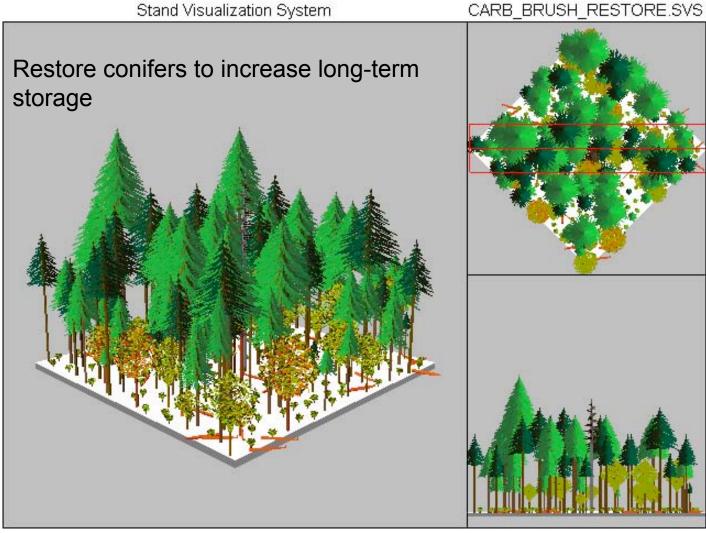


#### What can Forest Managers do?





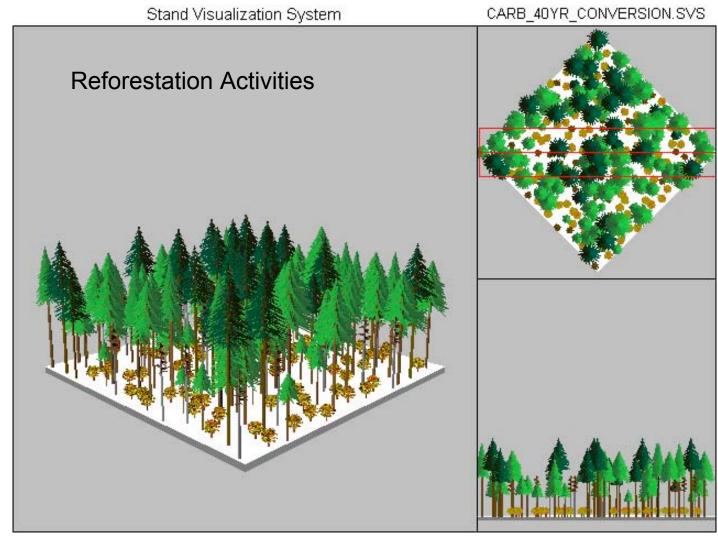
### What can Forest Managers do?







#### What can Forest Managers do?







## **Incentives to keep Forests Working**

- Establish a greenhouse cap and trade system to monetize forest carbon sequestration.
- Provide tax incentives, regulatory relief, and direct payments for landowners who permanently sequester carbon above legal standards.
- Provide policies that provide marketbased solutions to wildfire risk reductions.





#### In Summary.....



The forest sector can produce significant climate benefits when-

- •Managed/restored to increase overall Forest C Stocks and
- Protected to prevent CO<sub>2</sub> emissions



